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ABSTRACT

To examine the accuracy of myths of state higher education finance trends, this study used data from 50 states to explore recent patterns in funding allocation, state policies, and system characteristics. Data were gathered through development of a database on state system characteristics and trends and through two surveys sent to state higher education executive officers soliciting information on appropriations and budgeting, linkages affecting appropriations and tuition, cost containment strategies, policy goals and state financial aid policies. Findings included the following: (1) unmet student financial need has been increasing in all states; (2) most states mount no systematic effort to link appropriations for institutions and student aid to public tuition rates; (3) only 26.7 percent of respondent states have discussions underway to adopt market approaches to tuition; (4) states that spend more on subsidies for their public systems also spend more for financial aid appropriations; (5) in general, any direct link at the state level between state aid appropriations, state appropriations for public institutions and tuition levels for public higher education is a myth; and (6) few states have enacted policies to link tuition levels at state institutions to levels of state financial aid available. An appendix contains additional tables. (Contains 39 references.) (JB)

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State Funding for Higher Education: The Sisyphean Task

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State Funding for Higher Education: The Sisyphean Task

And then I saw Sisyphus, who had difficult pains
Pushing a monstrous stone up with both of his hands.
And indeed he made a leaning effort with hands and feet
To push the stone up the crest. But when it was about
To go over the top, then it turned back down with its force;
The shameless stone rolled on down again to the plain.
Then he pushed it back again, exerting himself, and the sweat
Flowed off his limbs and dust rose up around his head.
(Homer: *Odyssey* xi.593)

In Homer's *Odyssey*, the story is told of Sisyphus, the Greek god who was banished to Hades to serve out an eternal punishment. 'Sisyphus'--meaning 'very wise' in Greek--was ordered to serve out his days in Hades by rolling a stone up and over a hill. Sisyphus was never able to accomplish this task; as soon as he had rolled the stone to the verge of the summit, the weight of his load caused it to fall back down upon him. The stone gathered momentum as it rolled down the hill where Sisyphus, weary from his labors, was forced to begin again the journey back up the hill (Graves, 1955).

Myths reflect and express human experiences. As implausible as myths may appear, they nevertheless help to narrate events from ages past. They also help to illuminate current experiences. The power of myths, as the sociologist John Meyer notes, is that "the effects of myths inhere, not in the fact that individuals believe them, but in the fact that they 'know' everyone else does, and thus that 'for all practical purposes' the myths are true" (Meyer, 1977, p. 75).

State funding for higher education is currently

surrounded by its own myths. In many respects, the myth of Sisyphus provides a descriptive perspective of the state environment with respect to publicly funded higher education systems. States--and state policymakers--have been dropped a heavy ball, indeed. A number of significant trends have converged which place extreme demands on states to meet the funding needs for higher education. The most significant of these trends include: competing demands for state funds, declining federal commitment to student financial aid, sluggish state economies, declines in disposable family income, and increased demand for postsecondary education (Callahan & Finney, 1993; Gold, 1990). Like Sisyphus, many states find themselves struggling in a heated environment where--with great effort, sweat, and political dust swirling about their heads--they attempt to make difficult funding decisions which leave unaltered the basic role and mission of higher education, as well as the important values of student access, choice, and educational opportunity.

State governments are by far the largest source of revenue for public institutions. Between FY 1980 and 1992, the estimated federal share of higher education expenditures declined from 18 to 14 percent. In FY 1989-90, state government appropriations, grants, and contracts accounted for 41.7 percent of the current fund revenues for public colleges and universities. In contrast, federal government appropriations, grants, and contracts accounted for only 10.3 percent while

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tuition and fees accounted for 15.5 percent (National Center for Education Statistics, 1992). Of those federal expenditures, the largest postsecondary federal programs allocated funds for student financial assistance and the Guaranteed Student Loan (GSL) program. In constant dollars, federal student financial assistance and GSL program dollars increased only 2.8 percent from FY 1980 to 1992 (National Center for Education Statistics, 1993b).

States are not the only entities being saddled with a Sisyphean load. Students and their families have also increasingly been called upon to shoulder a greater burden of college expenses. The shift in the responsibility for financing higher education is startling. It is estimated that students and their families now pay approximately 142 percent more when compared to their level of effort from 1980.[1] This contrasts to an increase of 72 percent for the federal government and 81 percent for state governments during the same period (Mortenson, 1994b). The costs borne by students and families for financing higher education, in the form of tuition payments, have increased steadily from 34.4 percent in 1979 to 43.9 percent in 1992 (Mortenson, 1994b). As the student and family responsibilities for financing higher education have increased, so too has the loan debt of students. Since the major portion of all student aid takes the form of loans, student borrowing has increased as

[1] Effort is defined as a ratio of the average total family income to average college costs.

tuition and fees have increased. At Indiana University, for example, student borrowing jumped almost 38 percent in FY 1993-94 in response to an 8 percent increase in tuition (Beddingfield, 1994). In addition, changes in the demographic characteristics of students and families, especially age and family structures, have shifted family responsibilities for financing higher education. Fewer students, even those of traditional age, have parents who can afford to help pay for the dramatic increases in the costs of higher education (Hansen, 1991).

Continuing with our use of myth as a metaphor for the current higher education policy environment, we suggest the discussion and debate surrounding the "market model" of higher education financing has been elevated to almost mythic proportions. State legislatures across the country have been examining proposals which would abandon the subsidized, lower-cost public tuition model in favor of a high tuition-high financial aid model (Lopez, 1993). Individuals who argue for a high tuition-high aid model for public colleges and universities suggest that the higher costs more accurately reflect the actual costs of attending institutions. In addition, the costs of higher education are more equally distributed between students based on ability to pay; students who can pay more for their education will pay more. Those students who are unable to pay the entire costs of their tuition would receive financial aid to help defer their costs (Bloustein, 1990). In contrast, opponents of the market model suggest that the free market is not the way

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to finance higher education. They see higher education as a public good deserving of substantial subsidies. Opponents also argue that higher tuition charges would affect public perceptions of affordability and thus negatively impact educational access (Weber, 1990). Both arguments have received a great deal of attention, yet little evidence exists regarding the influence of either position on states, students, and families. The market model appears to be another myth in the making.

Objectives

This paper will examine the myths of higher education financing mentioned above. Specifically, using data from 50 states, this paper explores the following questions:

1. To what extent do the demographic, resource, and policy making characteristics of states explain the current state funding allocation decisions for public institutions and for state financial aid programs?

2. To what extent are state policy decisions regarding the following state policies linked: appropriations for public colleges and universities, for state financial aid programs, and the setting tuition rates at public colleges and universities? Is there evidence of a market model or other approaches to linking state financial aid and tuition policies at public postsecondary

institutions?

3. Are state characteristics, attributes of the postsecondary education system, and state financial resources in each state (e.g. characteristics of higher education sectors and state economic health) associated with trends identified in questions 1 and 2 above?

State Financing Trends

The trends converging on higher education which make the financing environment so precarious can roughly be placed into one of two categories: economic trends and public policy trends. These two rough groupings are admittedly artificial and tend to categorize and separate two interconnected and dynamic phenomena. They are useful, however, as conceptual tools which help to focus the discussion.

Economic Trends

One of the most serious trends faced by states is the simple fact that state revenues have failed to keep up with budget projections. In 1992, the total fiscal shortfall among states was estimated to be $5.8 billion. This figure excludes the budget shortfall for California which was estimated to be as high as $2.2 billion (Looking for a Light at the End of the Tunnel, 1992). The drastic shortfalls of the early 1990s have moderated as the national and state economies have improved.

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Indeed, whereas 35 states were forced to reduce their enacted budgets in 1992 to meet revenue shortfalls, only 10 states are predicted to reduce their enacted budgets in 1994 (Fiscal Survey of the States, 1994). Nonetheless, given the recent unpredictable nature of the economy and state spending, many structural, long-term problems still exist which make predictable and stable state appropriations to higher education and other state programs uncertain.

Similar to budget shortfalls at the state level, students and families have seen their purchasing power erode. Between 1981 and 1993, tuition and fee increases at public institutions exceeded Consumer Price Index (CPI) increases by an average of 5 percent (Mortenson, 1994a). During this approximate period, the average annual increase in tuition costs at public institutions was roughly 10 percent (Evangelauf, 1992). In general, tuition increases have outpaced family disposable income increases (Frances, 1990; Halstead, 1991). Disposable personal income per capita and median family income (in constant 1992 dollars) have remained stable with no appreciable increase throughout most of the 1990s and actually declined in 1991-92 (Trends in Student Aid: 1983 to 1993, 1993).

The burden of financing higher education has increasingly fallen on students and their families. From FY 1983 to 1992, the total average cost for an undergraduate student to attend a public university rose 22.8 percent (in constant dollars) from $5,006 to $6,149. At the same time, however, the median family

income rose only 6.4 percent, from $34,795 to $37,027 (Trends in Student Aid: 1983-1993, 1993). During the mid- to late 1980s, moreover, student tuition charges at public colleges and universities increased rapidly so that public sector increases outpaced those at private institutions (State Higher Education Appropriations, 1993). This shift in the responsibility for financing higher education may reflect a general public feeling that higher education is more a private benefit than a public good. This notion contrasts sharply with research on the public and individual rates of return of a college education. In what is arguably the most thorough investigation of this topic, Leslie and Brinkman (1988) concluded that going to college pays off (monetarily and non-monetarily) for both individuals and society. The estimated rate of return of an undergraduate education to society is from 11.6 to 12.1 percent, whereas the estimated rate of return to the individual is 11.8 to 13.4 percent.

Sharp tuition increases at public institutions represent a rather simple way through which state governments and higher education institutions can offset revenue shortfalls. "The math is straightforward. If tuition defrays one-third of instructional costs, states can freeze their appropriations and pay for an inflation-matching 3% increase in spending with a 9% increase in tuition" (State Policy Reports, 1992, p. 9). Though tuition increases may make good sense economically, their impact on access and choice for students may prove to be an even more important--and detrimental--higher education issue.

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Public Policy Trends

Economic trends are not the only factors that affect higher education financing. As a result of lean budgets, state policymakers have been forced to make difficult spending decisions and, in the process, clear policy choices. The proportion of state budget allocations going to higher education has been declining steadily since FY 1977-78 (Halstead, 1991). For example, state tax fund appropriations for higher education operating expenses as a percentage of personal income have declined since FY 1978-79. This decline continued in FY 1993-94 where the appropriations of state tax funds for operating expenses was $7.96 per $1000 of personal income (compared to $11.22 per $1000 in 1978-79), an overall decline of 29.1 percent. This decline occurred in all 50 states over the fifteen year period. The decline in California was especially dramatic during this period, from $13.47 per $1000 in FY 1978-79 to $6.57 per $1000 in FY 1993-94. This translates in to a decline of 51 percent (Mortenson, 1994a).

States have also redirected state funds to other needs; appropriations have been increasingly diverted away from higher education to spending priorities such as K-12 education, Medicaid, transportation, and corrections. Over the last five years, for example, Medicaid and corrections spending have been assigned higher budget priorities than other state programs (Mortenson, 1994b). Medicaid alone has increased it share of

state expenditures from 10 percent in FY 1987 to 17 percent in FY 1992 (Fiscal Survey of the States, 1993). In fact, in FY 1990, Medicaid surpassed higher education as the second largest component of state expenditures, second only to state spending on K-12 education (Fiscal Survey of the States, 1993). In addition, either by choice or because of mandatory spending requirements, many states have failed to exempt higher education from budget cuts to the same extent as other programs. In 1992, a survey of the National Association of State Budget Officers identified four state programs as being more likely to be exempted from budget cuts: AFDC, K-12 education, Medicaid, and corrections (Looking for a Light at the End of the Tunnel, 1992). Since higher education has not been exempted from budget cuts, its share of public revenues has steadily decreased. Indeed Gold (1990) noted that during the 1980s, when enrollments in elementary and secondary schools were declining, state appropriations to schools per $100 of personal income increased slightly. Conversely, during the same time period, when enrollments in public colleges and universities were increasing, state funding per $100 of personal income declined slightly. In short, higher education has, of late, found itself situated at the bottom of the "fiscal food chain" (State Policy Reports, 1993, p. 6).

As state general appropriations to higher education have declined, so too has state support for student financial aid (Layzell & Lyddon, 1990). Because of state budget shortfalls and/or increased applications for state scholarship programs,

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states have had to hold steady or reduce the size of their student financial aid awards (Callahan and Finney, 1993; Indiana Commission for Higher Education, 1994). Many low income students, and perhaps some middle income students, are now finding themselves with no affordable college alternatives.

Finally, many states and higher education institutions have responded to the convergence of the many economic and public policy trends mentioned above by attempting to increase higher education enrollments. From 1977 to 1990, enrollment in public institutions grew at an average annual rate of 1.6 percent. The total increase over the 13 year period was 23 percent (from 8.8 million to an estimated 10.8 million). By the year 2002, public enrollments are expected to reach 12.5 million. The average annual growth rate is predicted to be 1 percent from 1990-96 and 1.3 percent from 1996-2002 (National Center for Education Statistics, 1991). Much of this growth is due to large increases in part-time student enrollments (National Center for Education Statistics, 1993).

Conceptual Framework for Analysis of Trends

Three lines of inquiry form the conceptual framework upon which our findings are interpreted. The first line of inquiry draws upon the works of Hearn and Longanecker (1985). These authors have examined shifts in state assistance to public colleges and universities and state support for student financial aid programs. Hearn and Longanecker (1985) argued that the

current broad-based strategy to insure access for all students resulted in a poor use of public funds. The low tuition, low financial aid strategy pursued by most public colleges and universities provides subsidies to all students regardless of their need for such subsidies. By keeping the cost of a public education artificially low, subsidies are going to middle and high income students at a time when there are not enough financial aid resources to provide grants to low income students. The authors suggested that by raising tuition costs at public institutions to levels that come closer to the actual costs of production state resources could be freed to provide more financial aid to needy students. Proponents of this approach have often described it as the high tuition, high aid strategy. Hearn and Longanecker acknowledged that there are a number of unknowns in this approach, including uncertainty as to whether state governments will re-direct funds saved by reducing state appropriations to higher education institutions and allocate them to state student aid.

Gumport and Pusser (1984) provide a separate perspective on dimensions of the market model. They critiqued current shifts to reducing state appropriations to public institutions in California. These reductions, they have argued, and the resulting large increases in tuition levels at public colleges and universities in California, has lead to the privatization of public higher education. In essence their analysis in California indicates that state policymakers are pursuing high tuition

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advocated in the market model, but failing to provide high student financial aid. If many states are reducing their level of commitment to state appropriations without a concomitant increase in support for state financial aid programs Gumport and Pusser's critique can be employed beyond the state of California.

The third body of work provides a deeper understanding of the state factors which influence state funding policies for higher education. Leslie and Ramey (1986) argued that individual state economies and sociopolitical climates strongly influence state funding of higher education. Similarly, Layzell and Lyddon (1990) identified environmental factors (historical, political, economic, demographic), sociopolitical factors, governance and regulatory patterns, and funding approaches as being important elements of the overall milieu in which state funding for higher education occurs. Specifically, state leadership and partisan political activity, the bases of the state's economy, the state's historical relationship with higher education, the strength of various interest groups including the higher education sector, the existence of other compelling state interests (for example, Medicaid, road maintenance, prison construction), and state demographics are important elements which have a unique effect on state funding for higher education.

Methods and Techniques

Data from this study were gathered using two methods. A data base was constructed using primary and secondary sources.

For each of the 50 states, variables entered in the data base included: classificatory information on state governing boards, economic indicators for each state, financial aid appropriations, tuition rates, enrollment data, and state appropriations and general expenditures. Secondary data sources included in the data set include: Grapevine data (1990 to present), annual surveys of the National Association of State Scholarship and Grant Programs (NASSGP), selected items from a recent SHEEO survey of state financial aid policies (Lenth, 1993), and data from Financing Higher Education, 1978 to 1993 (Halstead, 1993) were used to describe state economic conditions, information on the tax capacity and other economic indicators for each state.

In addition to the data base, two surveys containing a total of 50 items were created. Content validity of the surveys were established by soliciting critiques from the staffs of state governing boards and directors of state scholarship programs. The surveys covered the following topics: state appropriation and budgeting approaches; linkages between institutional appropriations, state aid appropriations, and the tuition policies of public institutions; state level cost containment strategies; state policy goals; and state financial aid policies. All questions related to state appropriations and budgeting mechanisms for institutions, cost containment mechanisms, and state policy goals were sent to the SHEEO in each state. The surveys covering financial aid policies were sent to the director of state financial aid programs in each state. After the first

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round of surveys were returned, a second round of surveys and new cover letters were sent to all non-respondents. In addition, telephone and fax contacts were made with non-respondents. These strategies resulted in a response rate of 84% among SHEEOs and 90% among the directors of state financial aid programs. We received usable surveys from 42 state SHEEOs and 45 from state aid directors. For data we derived from Grapevine and other sources, data were available for all 50 states.

Data collected included nominal, ordinal, and interval variables. Both descriptive and inferential analytical techniques were used. Frequencies were used to reveal general funding and public policy trends. CROSSTABs, regression analyses, and exploratory factor analyses were also used to examine the relationships among variables. In most cases, when we used correlational or inferential statistical procedures we only same year data for our independent and dependent measures. For example, when using stepwise multiple regression to identify predictors of state appropriations for public sectors colleges and universities in 1992 we used only state tax data and other funding data from FY 1992. If we included previous year data, especially state appropriations for institutions or financial aid allocations, these variables dominated the regressions and dramatically reduced the effects of other independent variables.

Exploratory factor analysis was employed for two reasons. It was used as a data reduction technique to determine if there were underlying factors, composites of several variables, which

could be used to reduce the number of independent variables employed in our analyses. As will be discussed in the results section, the results from the regressions were not very useful, so we also used exploratory factor analysis as another method for searching for underlying relationships among the criterion variables of interest.

Variables for each state included in the analyses utilized in this study included the following measures.

1. Total enrollments in public and private institutions (entot90, entot91, entot92).
2. Financial aid appropriations (faapp90, faapp91, faapp92).
3. Appropriations to public four year institutions (stapp90, stapp 91, stapp92).
4. Average tuition levels at four year public colleges and universities (tlpub90, tlpub91, tlpub92).
5. State tax capacity (taxcap90, taxcap91, taxcap92).
6. State tax revenues (taxrev90, taxrev91, taxrev92).
7. State tax effort (taxeff90, taxeff91, taxeff92).
8. State support for public elementary and secondary schools, described at a competing priority (cpeduc90, cpeduc91, cpeduc92).
9. State support for medicare, described as a competing priority (cpmed90, cpmed91, cpmed92).
11. State consideration of adopting a market model approach to public higher education (v006).

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12. The extent to which states have developed formal linking, or coordinating mechanisms between tuition levels at public institutions and state appropriations for financial aid (v023).
13. The extent to which a series of state initiatives to maintain the affordability of postsecondary education might be linked to state appropriations for student financial aid including:
    a. tuition prepayment plans (v025a);
    b. tuition savings plans (v025b);
    c. state-based work study programs (v025c);
    d. loan forgiveness programs (v025d);
    e. community programs with tuition benefits (v025e);
    f. merit-based scholarships (v026f); and
    g. Taylor/Eugene Lang Programs (v027g).
14. The extent to which the value of the average state financial aid award has decline, remained stable or increased during the past three years (v028).

In addition, as previously noted, we used factor analysis to reduce the number of independent variables. These factors are described in the next section of the paper.

Results

The findings reveal that unmet student financial need has been increasing in all states. Except for informal efforts in

isolated states no systematic efforts are underway to maintain affordability at public colleges and universities by linking state appropriations for institutions and for student aid to public tuition rates. We begin our exploration of the results with an overview of descriptive findings. Only 26.7% of the responding states indicated that discussions were underway in their states to adopt a market approach to tuition at public sector institutions and state financial aid programs.

Insert Table 1 about here

But many more state policymakers indicated that they attempt to formally or informally link tuition levels at public institutions with state financial aid awards.

Insert Table 2 about here

Only 2.3% of the states responding reported that there were no relationships in their states between state financial aid programs and state policies for setting tuition. A total of 52.3% of the state financial aid directors indicated that relationship between tuition rates for public colleges and state

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financial aid was less formal, but that there was moderate pressure from state policymakers not to raise tuition rates too dramatically. Finally, 20.5% of the aid directors reported either a strong pressure on state colleges and universities not to raise tuition too dramatically in relationship to the state's ability to increase state financial aid, or that there is a very formal relationship between the setting of tuition levels at public institutions and appropriations for state financial aid. These findings suggest that many states monitor the relationships between college costs in the public sector and state aid.

However, later in the survey we asked state financial aid directors to indicate whether the average student aid award had declined, remained stable, or increased. Fifty-nine percent of the states responding reported that their financial aid awards had remained constant or declined. In the face of significant increases in the tuition levels of state institutions during the 1990s, these results not only suggest that states are not moving toward a market approach, they furthermore suggest that states are not formally linking of state financial aid to state tuition levels.

Insert Table 3 about here

We also ran a T-test comparing the average tuition levels at public institutions in each state and state financial aid appropriations. The results revealed no significant relationships between these two variables. If a preponderance of states were actively attempting to link public tuition levels and state financial aid funds we would have expected to find a relationship among these two variables.

Insert Table 4 about here

Following these descriptive analyses we ran a series of regression analyses to determine if we could identify independent variables which might help to predict the following criterion variables:

1. levels of state appropriations to public four year colleges and universities;
2. levels of state appropriations for state financial aid; and
3. linking of state policies for state appropriations to public sector institutions and state financial aid appropriations.

Because of the small sample size, we were limited in the number of independent variables we could include in any set of analyses. As we noted in the methodology section, we analyzed appropriations for 1990, 1991, and 1992 separately. Our efforts to identify predictors of the adoption of a market model, or any

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systematic linkages between state financial aid and state tuition were limited.

Layzell and Lyddon (1990) concluded that state tax capacity and other characteristics of the state have not proven to be good predictors of state appropriations to public institutions. They noted that history and past appropriation levels are the best predictors of state appropriations to higher education. We included state level data on: tax capacity, tax revenues, tax effort, appropriations to medicare, and appropriations to K-12 education. We also included total enrollments in public institutions. Using exploratory factor analysis we constructed a series of variables that reflected market-oriented policies toward the relationships between tuition levels and appropriations to student financial aid. These market factors were then included in some of our regressions (we discuss these market factors in the results section). For the most part our regression results yielded few significant relationships. Enrollments in public sector institutions were significant predictors of state appropriations for all three years, but this finding is intuitive; the larger the state system, the larger the state appropriation. Previous levels of state appropriations were also significant for all three years. These, however, were the **only** predictor variables that were significant. The absence of any other significant relationships reinforces Layzell and Lyddon's observation that tradition and past appropriation levels are the best predictors of future appropriations.

Our efforts to predict state financial aid were only slightly more successful. In Appendix A, we have included tables that display the findings of several regression which we ran. Because of the small N we were limited in the number of independent variables we could include in any set of analyses. Thus we used a series of regressions in an exploratory manner, searching for a constellation of variables that aided us in predicting the level of state financial aid appropriations. In many respects, non-significant findings are more illuminating than those that were significant.[2] In some runs we included variables which measured the self-reported effort of states to link financial aid appropriations to tuition levels at public institutions. We also included other variables which assessed the extent to which states were moving toward a market model or attempting to link tuition and state aid policies. None of these variables yielded significant relationships.

We also conducted some analyses in which we included average state tuition levels at public institutions as independent variables. We hypothesized if state financial aid appropriations were linked or coordinated with the setting of tuition levels at public institutions, then average tuition levels at public colleges and universities should be associated with state financial aid appropriations in our regressions. The relationships, however, were not significant.

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[2] In Appendix A we have only included regression runs that produced significant results. Tables with the results of all regressions are available on request from the authors.

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The tables in Appendix A, however, do reveal some interesting patterns, especially when contrasted with our attempts to predict state appropriations to public colleges and universities. We ran one set of analyses to predict state financial aid appropriations for 1990, 1991, and 1992 in which we included the following independent variables: competing priorities of medicare and education (cpmed and cpeduc), tax effort (taxeff), tax revenues (taxrev), tax capacity (taxcap) and state appropriations to public institutions (stapp). In these sets of analyses the only significant predictor, and interestingly the association was positive, was the size of state appropriations. States that spend more on subsidies for their public system of colleges and universities, also spend more for financial aid appropriations. Although we did not include enrollments in public institutions in this particular set of analyses we assume that states with larger state appropriations to public institutions and with larger financial aid appropriations also enroll more students. We ran another set of analyses with the same set of variables, excluding STAPP, to determine if there were additional, more subtle relationships among some of the other independent variables. Table A-1 through A-3 report these results with state appropriations to institutions included and with this variable excluded. In two of the three anslyses, 1991 and 1992 (with state appropriations removed), the competing priority of medicare reached the .05 level of significance and it was close to being signficant in

1990. In 1992, state tax capacity was also significiant. While our success in identifying variables associated with state financial aid appropriations was limited, we find these relationships intriguing and discuss possible implications in the concluding section of this paper.

Our success in identifying predictors of state appropriations to the public postsecondary institutions, state financial aid appropriations was limited. Given the focus of our interests, the lack of relationships between our measures of a market model approach, or of coordinated tuition policies at public institutions and state financial aid policies was troubling. To further explore possible relationships between market oriented approaches and state public policy we revisited the exploratory factor analyses. We also conducted a series of exploratory factor analyses including measures of state wealth, total enrollment in public and private institutions, state appropriations to state institutions and student aid, and competing appropriations to medicare and K-12 education. Our purpose was to see if we could uncover any structural relationships among any of our variables.

Our results for the market measures and state characteristics are reported in Table 5.

Insert Table 5 about here

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We have labeled Factor I, Innovative Aid Programs. We asked state financial aid directors the extent to which a variety of financial aid programs ranging from tuition prepayment and savings plans to merit-based scholarships and Eugene Lang ("I Have a Dream") Programs are taken into consideration when determining the level of funding for state financial aid programs. Factor I indicates that tuition prepayment plans and state-based work study programs are viewed as similar programs by state policymakers when considering state funding for financial aid programs.

We labeled Factor II the Affordability Factor. This factor is comprised of the following variables. Variable 28 asks state aid directors to indicate the extent to which the average state financial aid award for each student has declined, remained stable, or increased. The higher value assigned by the aid director, the more likely that average state aid awards have at least remained stable or increased. Community service with tuition benefits accounts for the next largest proportion of variance in this factor. Finally, the existence of Eugene Lang ("I Have a Dream") Programs is also included in this factor. State policymakers seem to consider these programs as similar and indeed all of them have become popular ways to try to assure affordability and access to students. Tuition prepayment plans are targeted more at middle class families. Community service programs can be targeted at both middle income and low income families. Eugene Lang Programs are targeted at low income

students. Despite the different target populations of these programs are directed toward all of them attempt to make college more affordable.

Factor III, the Market Linkage Factor, includes only two variables, both of which focus directly upon to state efforts to link tuition rates in the public sector with levels of state appropriations for student financial aid. Variable 6 asked SHEEOs if their states are considering adopting a market model for tuition and aid policies. Variable 23 asked state aid directors the extent to which there is a formal relationship between state financial aid appropriations and increases in public college tuition costs.

Together these three factors imply that certain types of state higher education policies are linked in the minds of state policymakers. The factors do not imply that these policies are being enacted, they only suggest that certain constellation of factors are likely to be considered together when policymakers consider ways to redress public concerns about college costs and affordability. They may provide some insight into the programs that policymakers may enact should they determine that public concerns over colleges costs must be addressed.

Table 6 reveals the results of our attempts to identify underlying associations among these variables which characterize the underlying wealth and competing financial commitments of the states.

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Insert Table 6 about here

There is surprising consistency among the factors that emerge for each of the three years. Three factors emerge for years 1990 and 1991. In both cases the factor loadings are quite similar. Indeed, enrollment in public sector institutions, financial aid appropriations, and state appropriations to public sector institutions form the most robust factor. Competing priorities and measures of state wealth do not load with either state appropriations or financial aid appropriations.

In 1992 only two factors emerged, but the general pattern of relationships is quite similar to the results from 1990 and 1992. Although state allocations to medicare load with enrollments in public institutions and with both state appropriations to public colleges and universities and state aid appropriations, these last three variables play a much stronger role in this factor.

The results from the regressions and factor analyses suggest that state revenue characteristics and competing priorities for state funds currently provide little explanation of state support for public sector institutions or for state student aid appropriations. The lack of predictors in the regressions and the consistent constellation of variables found in the factor analyses appear to reinforce Layzell and Lyddon's

(1990) observations about the factors that influence state appropriations for higher education.

Although the relationships are not consistent, when compared with our inability to uncover any underlying predictors of state appropriations for public institutions, Tables A-1 through A-3 raise some issues which merit further consideration. It appears plausible that state financial aid appropriations, when compared with state appropriations to public colleges and universities, are viewed as more discretionary expenditures. Whereas state wealth and competing priorities exert no impact upon institutional appropriations, they do influence financial aid appropriations. Put another way, public policymakers perceive constraints on their ability fund financial aid appropriations. Given the long history of state support of public institutions and the relatively short history of state financial aid programs, perhaps we should not be surprised by these results.

In general, the findings suggest that the much discussed market model, or any direct linkages at the state level between state aid appropriations, state appropriations for public colleges and universities, and tuition levels for public higher education, is indeed a myth. Our findings indicate that few states have enacted policies to link tuition levels at state institutions to the levels of state financial aid available. Equally important, we find little evidence of state-wide efforts to develop coordinated state tuition, institutional funding, and

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state aid policies. The efforts to develop high tuition and high aid strategies, moderate tuition and moderate aid, or low tuition and low levels of financial aid appear to be meager and isolated. Our results reveal no systematic relationships between any of the following: appropriations for public sector institutions, public sector tuition levels, and state financial aid appropriations. We were unable to identify any set of systematic relationships among these important funding issues. These findings do not exclude isolated examples of individual states that have enacted policies to link public sector tuition levels and state aid appropriations. Individual cases would not be evident in our approach to analysis. Our results do suggest, however, that such efforts are the exception rather than rule.

Summary

The findings provide little support for a strategy of high tuition/high aid among states. Indeed our results suggest that most states lack an integrated tuition and financial aid policy. Given the well documented rise in tuition increases (State Higher Education Appropriations, 1993) and the stable or declining dollar value of individual state financial aid awards (Callahan and Finney, 1992; Layzell and Lyddon, 1990; Indiana Commission for Higher Education, 1994), this lack of a coordinated policy is troubling. Indeed, only 30% of the states responding reported that they have been able to increase their financial aid appropriations enough to keep pace with student

demand and rising tuition. Thus, there is a shift toward higher tuition and stable or reduced state assistance to public institutions without a concomitant increase in student financial aid in states. These results support the privatization perspective that had been suggested by Gumport and Pusser (1994). As a total proportion of state budgets, resources are being shifted away from public colleges and universities and not re-directed to college students to any significant degree. In light of rising tuition costs, the default policy of many states suggests that higher education is decreasingly perceived as a public good. Privatization appears to be an apt term for describing current state policy directions. Our research does not prove or disprove the efficacy of the market model advocated by Hearn and Longanecker (1985). Our work indicates that despite the rhetoric, few states have enacted a market model approach. Our research suggests Hearn and Longanecker correctly identified possible shortcomings of this approach when they raised the possibility that state policymakers might fail to allocate sufficient state resources to state financial aid programs.

These findings raise interesting questions about the assumptions and operating frameworks being used by state policymakers. State support for public higher education has a long and impressive tradition. It should come as no surprise that state policymakers have maintained their longstanding commitment to institutional support. We raise the possibility that it is time for states to thoughtfully re-assess these long

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standing traditions. The problem for state policymakers, indeed, for federal and institutional policymakers as well, is that we have reached a point in our history where higher education has become viewed as a universal right at the very when the rising costs of higher education and state and federal budget constraints appear unable to support the expectations of the American public.

The convergence of these developments ought to be of concern for the American public and public policymakers. Only 14 years ago, Chester Finn (1978) observed that the goals of federal financial aid policy had shifted from a focus on student *access* to postsecondary education, to student *choice* of institution, and with the enactment of MISSA to *comfort* (students and parents would no longer need to sacrifice to earn a postsecondary education).

In 1978, when Finn offered this observation, the federal government was the single most important actor in the financial aid arena. Since that time, states have also become important partners in the financial aid arena. Given the combination of federal and state financial aid policies during past 15 years, in addition to rising tuition costs in the public and private sectors, we might well conclude that since 1978 we have abdicated any public policy commitment to *comfort and* perhaps to *choice*. Should current public policy trends continue even a commitment to *access* may be threatened. McPherson and Schapiro (1991) have already documented a shift of both wealthy and middle class

students from private to public colleges and universities. Mortenson (1994b) suggests that some forms of postsecondary education are rapidly getting out of reach for even lower middle class families. Should current public policy trends continue unabated only low tuition community colleges may be available to low income families.

If we return to our initial metaphor, federal and state policymakers are adding weight each year to the burden that students and families must overcome in order to provide a postsecondary education to our next generation. Their task is indeed becoming Sisyphean. In 1968 Jencks and Reisman observed that American society firmly believed higher education was a social escalator to upward mobility. The gears of the escalator are wearing out.

Returning to our original frames of reference, in many respects our findings extend the discussions presented in each of these lines of inquiry. Certainly our inability to identify variables other that past levels of funding and the size of the public postsecondary system to explain current state appropriations to public institutions is consistent with previous work on this topic. Our findings infer that state financial aid appropriations may be viewed as more discretionary expenditures, but our evidence is weak and this topic needs additional research.

Gumport and Pusser's (1994) analysis of the privatization of public higher education provides an important critique of the

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current policy directions of public higher education. Current trends indicate that their analysis of events in California can be extended to public policy shifts in other states. The defacto policy that is emerging in most states is increasingly higher tuition and modest or low state financial aid. The long term outcome of this shift, if left unchecked, will be ever greater privatization.

Finally, our results suggest that the market model is more myth than reality. As Hearn and Longanecker mused in 1985, it appears that public policymakers will support, or at least are willing to tolerate, high tuition, but they are less likely to provide funding for high levels of state financial aid. In fact, our findings indicate that there are few efforts to coordinate or link state tuition policy with state financial aid policy.

From an interpretive perspective, the market model might also be viewed as an important myth that has made it easier for state policymakers to consider decreasing their funding for state higher education. Unfortunately, while the rhetoric of the market model has been used as a justification for reduced state appropriations to public institutions and increased tuition levels in the public sector, public policymakers have ignored the other part of the market model equation -- higher levels of state aid. Since it is hard to quantify or measure precisely what is meant by terms like high tuition and high aid, or moderate tuition and moderate aid, policymakers have a great deal of latitude in enacting postsecondary education policy.

Although our research suggests that most states are not enacting legislation that coordinates public tuition and state aid policies there are a few states attempting to grapple with these issues. Efforts at these states merit additional investigation. Minnesota and Georgia for example, appear to be swimming against the current public policy tide. Minnesota has attempted to find the proper linking mechanisms between tuition and aid policies. Georgia, though its innovative use of state lottery money, has made a strong commitment to maintain student access to publicly supported higher education. They are also currently looking at state aid for students who attend private colleges and universities.

In addition to an examination of state policies, more work is needed on the combined impact of current federal, state and institutional financial aid policies upon student access choice. Part of the difficulty in studying public tuition and state financial aid strategies at the state level is that this fails to take into consideration federal and institutional financial aid policies. To date, most studies have focused on the effects of federal aid policy, state tuition and/or aid policies, or institutional tuition/aid policies. Few studies have examined the in a holistic fashion the impact on students of these policies, yet student enrollment behavior is rooted in their reaction to the "sticker price" and the "net price" of attendance. There may have been a time when there were sufficient dollars in federal, state, and institutional financial

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aid (in the context of tuition policies) for each member of this loosely coupled partnership to pursue its own goals without a great deal of consideration as to how the decisions of the other members of the partnership might affect students or colleges and universities. That time is clearly past.

Policy discussions and policy research on tuition and financial aid policies must find fruitful ways to engage all of the partners in this loosely-coupled aid providers coalition -- the federal government, state governments, and colleges and universities. In this era of limited resources we are unlikely to be able to sustain our longstanding commitment to educational equity and access without developing an integrated set of policies which provide modicum of consensus and shared responsibility among all the partners for keeping college affordable.

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TABLE 1

"Market Method" of Pricing

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
No	30	58.80	73.20	73.20
Yes	11	21.60	26.80	100.00
Missing	10	19.60	0.00	
Total:	51	100.00	100.00	
Valid Cases:	41			

TABLE 2

Relationship Between Tuition Rates and State Financial Aid Policies

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
0	1	2.00	2.30	2.30
Little Relationship	23	45.10	52.30	54.50
Less formal relationship with moderate pressure.	11	21.60	25.00	79.50
Less formal relationship with strong pressure.	5	9.80	11.40	90.90
Very Formal Relationship/ Not permitted to raise tuition.	0	0.00	0.00	90.90
Very Formal Relationship/ Aid raised in direct proportion.	4	7.80	9.10	100.00
Missing	7	13.70	0.00	
Total:	51	100.00		
Valid Cases:	44			

TABLE 3

Response to the Number of Applicants for State Financial Aid

Response	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Reduced Funding	4	7.80	14.80	14.80
No Increase in Funding	3	5.90	11.10	25.90
Increase in funding, but average award has declined.	2	3.90	7.40	33.30
Increase in funding, but award has remained the same.	7	13.70	25.90	59.30
Missing	24	47.10	0.00	
Total:	51	100.00	100.00	
Valid Cases:	27			

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TABLE 4

Relationship Between Average Public Tuition & State Financial Aid Appropriation

	TLPUB90	TLPUB91	TLPUB92
FAAPP90	-0.1417	-0.0517	0.0150
	50	50	50
	P=.326	P=.722	P=.918
FAAPP91	-0.1350	-0.0506	0.0088
	50	50	50
	P=.350	P=.727	P=.952
FAAPP92	-0.1408	-0.0537	-0.0028
	50	50	50
	P=.329	P=.711	P=.984

TABLE 5

Factor Analysis of Market Model Variables

ROTATED FACTOR MATRIX:

	FACTOR 1	FACTOR 2	FACTOR 3
Loan Forgiveness Programs	0.87306	0.13711	0.04893
State-based Work/Study Programs	0.78035	-0.32871	0.32235
Merit-based Scholarships	0.66287	0.37117	-0.1006
Increase in # of students applying for aid?	0.16126	0.79872	-0.10196
Community/public Service	-0.04674	0.68522	0.01556
Relationships between tuition and state financial aid?	0.34081	0.55253	0.52585
"Market method" of pricing?	0.01777	-0.08854	0.91734

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TABLE 6

Factor Analysis of State Characteristics & Funding Priorities

ROTATED FACTOR MATRIX FOR 1990:

	FACTOR 1	FACTOR 2	FACTOR 3
FAAPP90	0.94797	0.0681	-0.04815
ENPUB490	0.93992	-0.02766	-0.15075
STAPP90	0.91423	0.06198	0.10171
TAXREV90	0.17771	0.74900	0.57272
CPEDUC90	0.26238	-0.73801	0.07868
TAXEFF90	0.17554	0.73751	-0.05082
CPMED90	0.2055	0.16376	-0.84777
TAXCAP90	0.17809	0.57385	0.63983

ROTATED FACTOR MATRIX FOR 1991:

	FACTOR 1	FACTOR 2	FACTOR 3
FAAPP91	0.94911	0.13136	-0.04218
STAPP91	0.94857	-0.00186	0.05487
ENPUB491	0.93571	-0.02479	-0.20732
TAXEFF91	0.18959	0.77029	0.03736
CPEDUC91	0.25475	-0.7627	0.10589
TAXREV91	0.15141	0.74328	0.56819
CPMED91	0.28932	0.10967	-0.83749
TAXCAP91	0.15328	0.54112	0.61237

ROTATED FACTOR MATRIX FOR 1992:

	FACTOR 1	FACTOR 2
ENPUB492	0.94977	0.01305
FAAPP92	0.94032	0.11772
STAPP92	0.86107	0.00179
CPMED92	0.62858	-0.08877
TAXREV92	-0.06781	0.92263
TAXCAP92	0.0877	0.85016
TAXEFF92	0.08227	0.67489
CPEDUC92	0.08347	-0.54857

TABLE A-1

Predictors of Financial Aid Appropriations, 1990

Equation Number 1 Dependent Variable.. FAAPP90

Block Number 1. Method: Enter

Variable(s) Entered on Step Number:

1. STAPP90
2. CPMED90
3. CPEDUC90
4. TAXEFP90
5. TAXCAP90
6. TAXREV90

Multiple R	0.82953
R Square	0.68812
Adjusted R Square	0.64134
Standard Error	1.1837

Analysis of Variance	DF	Sum of Squares	Mean Square
Regression	6	123.65633	20.60942
Residual	40	56.0436	1.40114

F=14.70904 Signif F = .0000

Variables in the Equation

Variable	B	SE B	Beta	T	Sig. T
STAPP90	0.651466	0.081415	0.761697	8.002	0.0000
CPMED90	0.240714	0.131084	0.171395	1.837	0.0736
CPEDUC90	0.118317	0.139385	0.085433	0.849	0.401
TAXEFP90	-0.048485	0.169393	-0.038804	-0.286	0.7762
TAXCAP90	0.312827	0.331336	0.184378	0.944	0.3511
TAXREV90	-0.043275	0.255571	-0.040898	-0.169	0.8664
(Constant)	-0.404198	0.930874		-0.434	0.6663

Equation Number 1 Dependent Variable.. FAAPP90

Block Number 1. Method: Enter

Variable(s) Entered on Step Number:

1. TAXCAP90
2. CPMED90
3. TAXEFP90
4. CPEDUC90
5. TAXREV90

Multiple R	0.43598
R Square	0.19008
Adjusted R Square	0.0959
Standard Error	1.90269

Analysis of Variance	DF	Sum of Squares	Mean Square
Regression	5	36.53383	7.30677
Residual	43	155.67025	3.62024

F = 2.01831 Signif F = .0951

Variables in the Equation

Variable	B	SE B	Beta	T	Sig. T
TAXCAP90	0.539019	0.518814	0.310959	1.039	0.3046
CPMED90	0.405464	0.206857	0.289523	1.96	0.0565
TAXEFP90	0.136792	0.344591	0.109038	0.539	0.5789
CPEDUC90	0.39142	0.211821	0.272362	1.848	0.0715
TAXREV90	0.013122	0.387876	0.013967	0.039	0.9691
(Constant)	0.092598	1.416439		0.065	0.9485

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TABLE A-1

Predictors of Financial Aid Appropriations, 1991

Equation Number 1 Dependent Variable.. PAAPP91

Block Number 1. Method: Enter

Variable(s) Entered on Step Number:
1. STAPP91
2. TAXCAP91
3. CPMED91
4. TAXEFF91
5. CPEDUC91
6. TAXREV91

Multiple R	0.89932
R Square	0.80877
Adjusted R Square	0.78009
Standard Error	0.90971

Analysis of Variance	DF	Sum of Squares	Mean Square
Regression	6	140.00549	23.33391
Residual	40	33.1029	0.82757

F = 28.19562 Signif F = .0000

Variables in the Equation

Variable	B	SE B	Beta	T	Sig. T
STAPP91	0.75500	0.06636	0.85819	11.377	0.0000
TAXCAP91	0.316331	0.266903	0.152947	1.185	0.2429
CPMED91	0.109138	0.102115	0.07489	1.069	0.2916
TAXEFF91	0.07888	0.148871	0.06502	0.530	0.5991
CPEDUC91	-0.043751	0.109463	-0.031875	-0.400	0.6915
TAXREV91	-0.074591	0.187641	-0.06966	-0.398	0.6931
(Constant)	-0.783098	0.859707		-0.911	0.3678

Equation Number 1 Dependent Variable.. PAAPP91

Block Number 1. Method: Enter

Variable(s) Entered on Step Number:
1. TAXCAP91
2. CPMED91
3. TAXEFF91
4. CPEDUC91
5. TAXREV91

Multiple R	0.44246
R Square	0.19577
Adjusted R Square	0.10226
Standard Error	1.8633

Analysis of Variance	DF	Sum of Squares	Mean Square
Regression	5	36.34164	7.26833
Residual	43	149.29102	3.47188

F = 2.09348 Signif F = .0847

Variables in the Equation

Variable	B	SE B	Beta	T	Sig. T
TAXCAP91	0.6895	0.526136	0.325087	1.311	0.1970
CPMED91	0.398255	0.200282	0.296744	1.988	0.0531
TAXEFF91	0.323057	0.27083	0.263644	1.193	0.2395
CPEDUC91	0.284353	0.210806	0.201784	1.35	0.1841
TAXREV91	-0.099054	0.357524	-0.090459	-0.277	0.7831
(Constant)	-0.769254	1.685801		-0.456	0.6503

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TABLE A-3

Predictors of Financial Aid Appropriations, 1992

Equation Number 1 Dependent Variable.. FAAPP92

Block Number 1. Method: Enter

Variable(s) Entered on Step Number:
1. STAPP92
2. TAXEFP92
3. CPEDUC92
4. CPMED92
5. TAXCAP92
6. TAXREV92

Multiple R	0.83095
R Square	0.69047
Adjusted R Square	0.64028
Standard Error	1.15331

Analysis of Variance	DF	Sum of Squares	Mean Square
Regression	6	109.7851	18.29752
Residual	37	49.2140	1.33013

F = 13.75616 Signif F = .0000

Variables in the Equation

Variable	B	SE B	Beta	T	Sig. T
STAPP92	0.57796	0.08028	0.71597	7.199	0.0000
TAXEFP92	0.041049	0.180351	0.033034	0.234	0.8241
CPEDUC92	0.150157	0.145684	0.107272	1.031	0.309
CPMED92	0.285101	0.134907	0.209233	2.113	0.0414
TAXCAP92	0.229803	0.390519	0.094589	0.640	0.5264
TAXREV92	0.097577	0.231349	0.082253	0.422	0.6755
(Constant)	-1.476429	1.228307		-1.202	0.237

Equation Number 1 Dependent Variable.. FAAPP92

Block Number 1. Method: Enter

Variable(s) Entered on Step Number:
1. TAXCAP92
2. CPMED92
3. TAXEFP92
4. CPEDUC92
5. TAXREV92

Multiple R	0.54518
R Square	0.2972
Adjusted R Square	0.21354
Standard Error	1.70634

Analysis of Variance	DF	Sum of Squares	Mean Square
Regression	5	51.70693	10.34139
Residual	43	122.27231	2.91134

F = 3.55223 Signif F = .0091

Variables in the Equation

Variable	B	SE B	Beta	T	Sig. T
TAXCAP92	0.958083	0.473564	0.432455	2.023	0.0495
CPMED92	0.616488	0.186354	0.459233	3.308	0.0019
TAXEFP92	0.117313	0.237637	0.096804	0.494	0.6241
CPEDUC92	0.252954	0.204086	0.180899	1.239	0.2221
TAXREV92	-0.34483	0.309907	-0.211301	-0.789	0.4344
(Constant)	-1.627351	1.699972		-0.957	0.3439

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